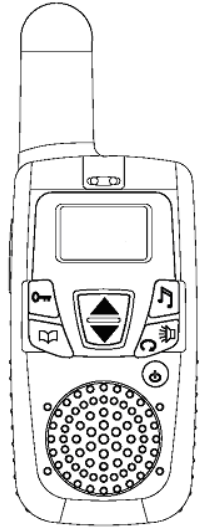# *Zartek* 5 *Zartek* 8
PRO *PRO*
User's Manual
(WT-206 PRO SERIES)

Congratulations! You have just purchased a new remarkable product in communications. The *Zartek Pro* is one of the smallest and lightest two-way radios in the world. This is due to the use of Li-ION battery technology and micro-circuitry. With the *Zartek Pro* you can talk instantly to as large a group as required and as often as you like without airtime charges, giving you, family, friends, commercial and industrial colleagues many years of free quality communications. The *Zartek Pro* uses a Lithium Ion battery (Li-ION), the most advanced and ecologically friendly rechargeable battery available (most advanced mobile phones also use a Li-ION battery).

New legislation allows you now to own and use this relatively powerful equipment **without** an operator's annual license from ICASA. This applies in most European countries (using the *Pro-8*) as well as in all SADC (Southern African Development Community) countries (using the *Pro-8* or *Pro-5*)
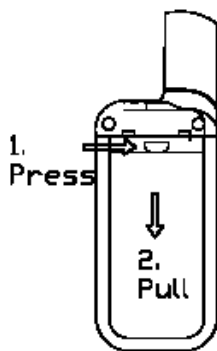
To obtain **maximum** performance from your personal two-way radio, please take a few minutes to carefully read this user's manual. The *Zartek Pro* is a lightweight, palm-sized wonder communication device, so small you can carry anywhere and talk to any person who is set on the same channel, as long as they are within range. The range of the *Zartek Pro* is anything from 1km indoors to 20kms outdoors, depending on terrain and environment. The signal will bounce around and penetrate materials at the speed of light, bearing in mind the greater the barriers the more attenuation i.e. weakening of the signal.

The *Zartek Pro* is our exciting new generation series and comes in two frequency versions, *Pro-5* and *Pro-8*. The *Pro-8* sits in the 446MHz band of frequencies often called the PMR (Public Mobile Radio) band. It is pre-programmed with **8** frequencies and is therefore channel compatible to the original *Zartek* Eco. The *Pro-5* is programmed with **5** frequencies in the 463MHz band. It is therefore channel compatible to the original *Zartek* model no. 21-1860-AF sometime also referred as the ZA-200. The *Pro-5* is not compatible to the *Pro-8* as they operated in different frequency bands.
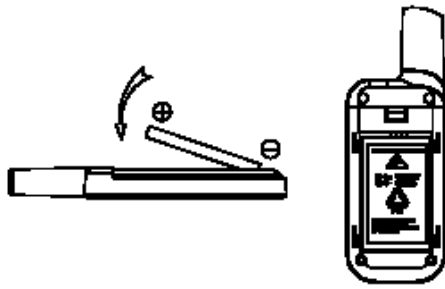
MAIN FEATURES

- PLL (Phase Lock Loop) Controlled Circuitry
- Ultra Slim size (19mm)
- Ultra light weight (67g with battery)
- Li-ion rechargeable battery
- 5 or 8 UHF (Ultra High Frequencies) Frequencies
- 38 Quiet (CTCSS-Continuous Tone Coded Sub-audible Squelch) Codes
- 190 channels (PRO-5) or 304 channels (PRO-8)
- Digital Volume Control (15 levels)
- Channel Scanning
- VOX (Voice Operated Transmit) Function (3 levels of sensitivity)
- Scramble Function (4 formulae)
- Baby Monitor (3 levels of sensitivity)
- FM Radio 88~108MHz
- Stop Watch with Lap Time
- Roger Beep On/Off
- Call Function (10 different tones)
- Auto Squelch Control
- Back lighted LCD (Liquid Crystal Display)
- Keypad Lock
- Memory Retention Function
- Auto Power Off (APO)
- Power Saving Circuitry
- Battery Charge/Drain Indication
- External Mic/Headset (PTT or VOX) included
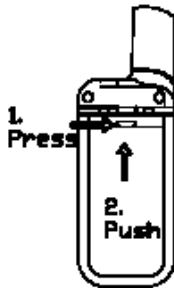- Transmit indicator icon and light

INSTALLING BATTERIES

Use the Li-ION rechargeable battery provided.

Press battery cover release button slightly down and then slide the battery door off.

Follow "This Side Face Up" and +/- polarity to install the Li-ION battery pack into the compartment

Slide the battery door on to close.

⚠ WARNING
- Make sure the polarity of battery is correct.
- When the battery is damaged or not working, dispose of it safely. Never discard them or put them close to heat, otherwise, it may explode.

This radio is designed to use a 3.7v Li-ION rechargeable battery. The battery included is well designed to function with this equipment and has built-in protection circuitry for internal short circuit and overcharge.

RECHARGING BATTERIES
When the "Battery Level" icon is low, you need to charge the battery with the enclosed AC/DC Adaptor (or Optional Desktop Charger). The battery has a built-in charging current limiting circuit and when the battery is fully charged, the circuit will automatically cut the charge current to protect the battery.
- The charging cycle rate is about 750 times. Li-Ion batteries do have a shelf life and should be stored with charge and in a cool environment to extend their life.

With AC/DC Adaptor & vehicle cigarette lighter Adaptor:
- Plug the adapter into the wall or vehicle cigarette lighter socket and the other end plug into the earphone jack on the radio.
- The unit will automatically turn off and the LCD backlight will turn **RED** to indicate charging.
- To charge fully from empty requires about 4 hours.
- When fully charged the LCD backlight will turn **GREEN**.
- Unplug the adapter from the socket and the radio will automatically turn on.
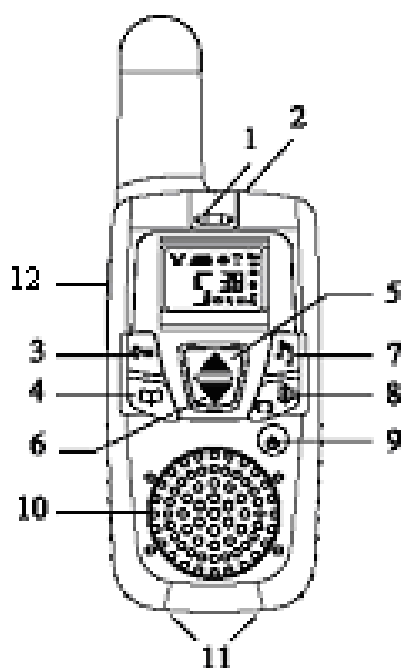
⚠ WARNING:

- Only use vehicle cigarette lighter adaptor with standard 13.6vDC socket.
- The unit will warm up slightly during charging.

With Desk Top Charger

- Plug the AC/DC adaptor into wall and other end plug into the desk-top charger.
- Place the radio into the desk-top charger.
- While charging, the Red LED on the charger will remain ON
- Unlike the direct adaptor, the radio remains ON and does not turn auto OFF.
- A full charge requires about 6 hours. The Red LED of the charger will then turn OFF and the radio's Red LED will turn ON, indicating full charge.
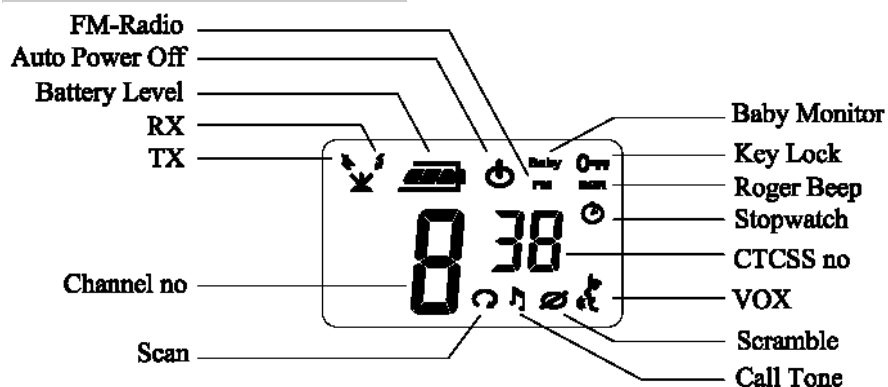
⚠WARNING: To avoid damage to the radio use only original accessories.

OVERVIEW

1. Microphone
2. Earphone & Mains/Vehicle Charger Jack
3. Keypad Lock key
4. Menu key
5. Up key
6. Down key
7. Call Tone key
8. Scan / Monitor key
9. Power On / Off key
10. Speaker
11. Desktop Charger Contacts
12. PTT Button

LCD DISPLAY ICONS

GENERAL OPERATION

(1) POWER ON/OFF

- To power ON the radio, press Power On/Off key " ⏻ " for 2 seconds until a beep is heard and the LCD screen displays the channel and battery level icon ▰▰▱
- To power OFF the radio, press Power On/Off key " ⏻ " for 2 seconds until LCD display turns off.

(2) MAKING COMMUNICATIONS

The radio has 5 or 8 main frequencies (large numbers) & 38 CTCSS codes (small numbers) effectively giving you 190 or 304 channels respectively. You can communicate with any other user who is using the same combination, providing they are within range.

(3) SPEAK TO ANOTHER RADIO

- Press & hold the PTT key, the RED LCD backlight turns on and shows the icon ⌇ indicating the radio is transmitting.
- Hold the radio in a vertical position with the microphone 3-5 cm from your mouth and then speak.
- When you finish speaking, release the PTT key and a beep tone will be heard.

(4) LISTEN TO ANOTHER RADIO

- The radio will automatically sound received transmissions from the same channel.
- When you press the PTT key, you can't listen to other radios. Make sure you do not press the PTT key for listening.
- Adjust volume control if necessary.

(5) ADJUSTING SPEAKER VOLUME (15 LEVELS)

- Press the "▲" key to increase the volume.
- Press the "▼" key to decrease the volume.

(6) TALK TIME-OUT FUNCTION

- Time-out function can avoid transmitting by chance and prolong the battery life.
- The radio will stop transmitting and sound a warning tone when PTT is held over 60 seconds. You then need to release PTT and press again for further transmission.
- In VOX mode, the unit will stop transmitting and sound a warning tone after continuous talk for 60 seconds. You can re-activate VOX after the time-out. (Please refer to VOX function for detailed VOX operation)

(7) TALK RANGE

The range will depend on the type of terrain that you are communicating across. The **Zartek Pro** uses the UHF (Ultra High Frequency) band and will be subject to similar obstacle interference as cellular phones. The radio works indoors as well as outdoors. Typical rough estimate ranges for different terrains are:

- Shopping centre 300m-1000m

- Building 5-30 stories,
- City centre & dense bush 500m-2km,
- Residential & over water 2-4km,
- Farmland 3-5km,
- Top of mountain or building (line-of-sight) 10-30km.

When you press the PTT talk button a signal is transmitted and the signal floods the area in all sideway directions. The signal travels in 3 different ways:

1**) Penetration**: The signal can go through materials such as wood, plastic, cement and fabric. The denser the material or more built up the environment the weaker the signal will become. The signal cannot go through solid metal or very large solid land structures such as a hill or mountain. Metal acts like a shield and that is why the performance from the inside of a vehicle (car or 4x4) will be less than outside.

2**) Reflection**: The signal cannot go through metal or very large structures such as a hill or mountain, but it can bounce off (like a mirror), go around and reflect in other directions as well. This happens at the speed of light.

3**)Line-of-sight**: Line-of-sight is when there are no obstructions in the path between the communicating parties. The higher up you go the further you can see, so the larger the line-of-sight distances will be. Generally you can talk to wherever you can see, which is why the coverage in a valley is much less than the coverage from on top of a hill.

Ensure that there is nothing blocking the antenna .The less metal in close proximity (0-2m) the better the range. There may be external interference from electrical equipment (power lines or factories) or natural causes (moisture in the air or storms) that may vary depending on the location and the weather.

(8) MENU FLOW CHART

Press "⌦" once to enter main channel selection, press "⌦" again for next function selection etc.

Main screen ➡ Main Frequency ➡ CTCSS ➡ FM Radio ➡ Call tone ➡ Scramble ➡ VOX ➡ Stop Watch ➡ Baby Monitor ➡ Roger Beep ➡ APO ➡ Main screen

(9) SELECT CHANNEL

To set the Main Frequency
- Press the "⌦" key once, 1 of the 8 "frequency numbers" displayed will flash.
- Press"▲" or "▼" key to select your required main frequency.
- Press the "PTT" key to confirm or press "⌦" to continue.
- You have 12 seconds to decide before auto-reverting back to the main screen.

(10) CTCSS CODE FUNCTION

This function can help you select your group (38 CTCSS codes) of users on the shared frequency. Only the users with the same CTCSS code can listen and talk to each other.

To select a CTCSS code

- Press the "▭" key twice, the CTCSS code display will flash.
- Press "▲" or "▼" key to select your required CTCSS code (1~38, " 0 " is off).
- Press the "PTT" key to confirm or press "▭" to continue.
- You have 12 seconds to decide before auto-reverting back to the main screen.

(11) FM RADIO

You can listen to FM Radio with the speaker or through earphone.

- Press "▭" key 3 times to enter FM radio mode.
- LCD will display the FM radio frequency.
- Press "▲" or"▼" key to change the FM radio frequency.
- Press and hold "▲" or"▼" key to automatically scan FM radio frequencies. Scanning will stop when it finds a FM radio channel
- Continue scanning for FM radio frequencies by pressing the "▲" or"▼" key.
- Volume on the radio is adjusted by pressing "↤" key and then pressing "▲" or "▼" key whilst listening to FM radio.
- When you receive other 2-way radio call signals, or you press PTT key to transmit, the unit will automatically switch to 2-way radio mode.
- After finishing the communication, you can press "▭" key 3 times again to enter FM mode. The unit will remain on the last FM radio frequency you have selected.

(12) SENDING CALL-TONES

You can use 1 of 10 different "Call Tones" to call to attention another user on the same channel. The 10 kinds of sounds can be used for personal identification

- Pulse "♪" key once and the tone will sound, the transmit icon 🠖 and call tone icon♪ will appear on the LCD and your selected call tone will be sent.
- If the "♪" key is held pressed the call will not be transmitted but the LCD backlight will remain on.

(13) SELECTING A CALL-TONE (10 AVAILABLE)

- Press "▭" key four times, ♪ icon will appear and call tone number will flash.
- Press"▲" or "▼" key to select your desired call tone.
- Press the "PTT" key to confirm or press "▭" to continue.
- You have 12 seconds to decide before auto-reverting back to the main screen.

(14) SCRAMBLE FUNCTION

You can enjoy **privacy** to talk within your group by selecting a same scramble formula as your group member does.

- Press "▭" key 5 times and LCD will display the scramble icon ∅.
- Press "▲" or "▼" key to select a formula from 1 to 4. Option **OF** is to turn the scramble function off.
- Press PTT to confirm and return to the main screen or press "▭" key once to confirm the selection and continue to the next menu feature.
- After turning the scramble function on (1-4), the LCD will display ∅ icon.
- Please make sure other group member's PMR has scramble function and has selected the same formula otherwise the received conversation will be scrambled and incomprehensible.

(15) VOX "HANDS FREE WALK & TALK"

The **Zartek Pro** has innovative state-of-the-art technology not seen in other two-way radios with its multi-level sensitivity built-in VOX function. You can enjoy talking and listening without pressing PTT key as transmit is automatically activated by sound. This turns your radio into hands free "walk & talk" with your accessory earphone.

- To turn on VOX function press "▭" key six times, the LCD displays the ⟨ₑ icon and the VOX sensitivity digit display will flash.
- Press "▲" or "▼" key to select **OF**, 1, 2 & 3 for OFF, low, medium & high sensitivity.
- After turning on VOX the LCD will display ⟨ₑ icon, and press PTT to confirm and quit or press "▭" key once to confirm the selection and continue to the next menu feature.
- You can plug in the earphone for hands-free talking & listening.
- The VOX feature works best when speaking directly into (or close to) the microphone on the radio or on the external headset.

(16) STOPWATCH

- Press "▭" key 7 times to enter the stopwatch mode.
- Press "▲" or "▼" key to start the watch.
- Press "▲" or "▼" key to stop the watch.
- Press " ⊶ " key to reset.

(17) LAP TIME

- Once in stopwatch mode to get a lap time, press "▲" or "▼" key to start the watch.

- Press the "⊷" key to stop and show the lap time while the watch is running.
- Press the "⊷" key again to switch back to stopwatch mode and show the running time.
- Press the "▲" or "▼" key to stop and press "⊷" key to reset.
- Press the "▭" key 4 times to exit to the main screen.

Whilst in stopwatch mode the user can transmit and receive on the stored channel.

(18) BABY MONITOR
- Press the "▭" key 8 times and the LCD will display the "**Baby**" icon.
- Press the "▲" or "▼" key to monitor sensitivity level from 1 to 3 (low to high level), **OF** is turn OFF this function.
- Press PTT to confirm and quit or press "▭" key once to confirm the selection and continue to the next menu feature.
- After turning on this function the LCD will display "**Baby**" icon on the main screen.

(19) ROGER BEEP (ON/OFF)
The Roger beep notifies the receiving radio that the conversation has ended by sounding a beep when the transmitter has finished.
- To activate the roger beep press the "▭" key 9 times and the LCD will display "**RGR**".
- Press the "▲" or "▼" key to turn on ("**ON**" icon) or turn off ("**OF**" icon) the Roger beep.
- Press PTT to confirm and exit to the main screen or press the "▭" key once to confirm the selection and continue to the next menu feature.
- After turning on the Roger beep, LCD will display **RGR** icon.

(20) AUTO POWER OFF (APO)
- Press the "▭" key 10 times the LCD displays the ⏻ icon.
- Press "▲" or "▼" key to select auto power off time from 0 to 12 hours.
- Press PTT button to confirm and return to the main screen or press the "▭" key once to confirm the selection.
- After turning on this function the LCD will display the "⏻" icon and automatically turn off at designated time.

(21) SCANNING CHANELLS
- Press "↻" key once and the "↻" icon will appear and radio will start scanning through the 190/304 channels automatically.

Note: Pressing the button for over 2 seconds, will break the squelch noise and open (un-squelch) the frequency.

- The radio scans all the frequencies one by one and will lock on any activity. After locking-on to a conversation, press the "▲" or "▼" key to continue scanning or press the PTT key to store the channel and communicate back.
- If there is no activity, it will continue to scan. By pressing the PTT key, it will stay on the current selected channel and quit the scanning function or press the "▭" key once to confirm the selection and continue to the next menu feature.

(22) KEYPAD LOCK

- Press and hold the"▭" key for 1.5 seconds, the keypad lock "⊷" icon will appear.
- This will lock all keys except the PTT and "♪" keys
- To unlock, press "▭" key again for 1.5 seconds.

(23) USING A PTT/VOX EARPHONE

A single headset can be used with both PTT and VOX capabilities.

- Plug the PTT/VOX Earphone into the earphone jack
- Press & hold the PTT key on the in-line microphone to speak.
- Release the PTT key to listen.
- Adjust volume control if necessary.
- Set up VOX on the radio using the menu "▭" key (see section 15 above).
- Speak into the in-line microphone to activate the transmitter and listen though the earpiece.

(24) CARE & SAFETY

To clean the radio, wipe with a soft cloth dampened with water. Never use solvents or cleaners on the radio, they can harm the body and leak inside, causing permanent damage. Your radio is not splash proof or waterproof. If the radio gets wet, turn it OFF and remove battery immediately. Dry the battery compartment to minimize potential water damage. Leave cover off battery compartment and do not use until completely dry.

(25) WARNING

Do not operate the radio in hazardous environments, explosion or fire may result. Do not operate the radio near unshielded electrical blasting caps. Under certain conditions, radio can interfere with blasting operations and may cause an explosion. Turn your radio OFF to prevent accidental transmission when in a "blasting area" or in areas posted "Turn your radio off". Construction crews often use remote controlled RF devices to set off explosives.

(26) SPECIFICATIONS

Operating Frequency Range	
PRO-5	463.975 ~ 464.375 MHz
PRO-8	446.00625 ~ 446.09375 MHz
Number of Frequencies	5 or 8 (12.5KHz spacing)
Modulation	FM
Frequency Control	PLL
RF Output Power	500mW e.r.p
Power Supply	3.7v 720mAh Li-Ion rechargeable battery
Antenna Impedance	50 Ohm
Operating Temperature	-20 to +60C

(27) COMPATIBILITY

There are two different frequency bands for handheld public UHF two-way radios in South Africa, a **5** and an **8** frequency band. The *Pro-8* is pre-programmed with **8** frequencies and is therefore channel compatible to the original *Zartek* Eco and other radios also using this band. The *Pro-5* is programmed with **5** frequencies and is therefore channel compatible to the original *Zartek* model no. 21-1860-AF sometime also referred as the ZA-200. The *Pro-5* is thus not compatible to the *Pro-8* as they operated in different frequency bands.

(28) ACCESSORIES

GE-244……….Ear-bone microphone (high noise environments)
GE-245 ………Desk-top dual battery charger (PRO)
GE-246 ………PTT (and VOX) Earphone with in-line microphone

(29) WARRANTY

This product is warranted by Zartek against manufacturing defects in materials and workmanship under normal use for a 12 month period from date of purchase via our authorized appointed dealers.

Manufactured for Zartek of South Africa to meet ICASA technical requirements.
For further information contact us via email: **info@zartek.co.za** *or visit our website* **http://www.zartek.co.za/**

AUTHORISED DEALER